

**asut**

Lunch Forum  
Zürich - Sept. 22<sup>nd</sup> 2017

# Mobile Interception

Risks and Countermeasures  
for Corporate and Government

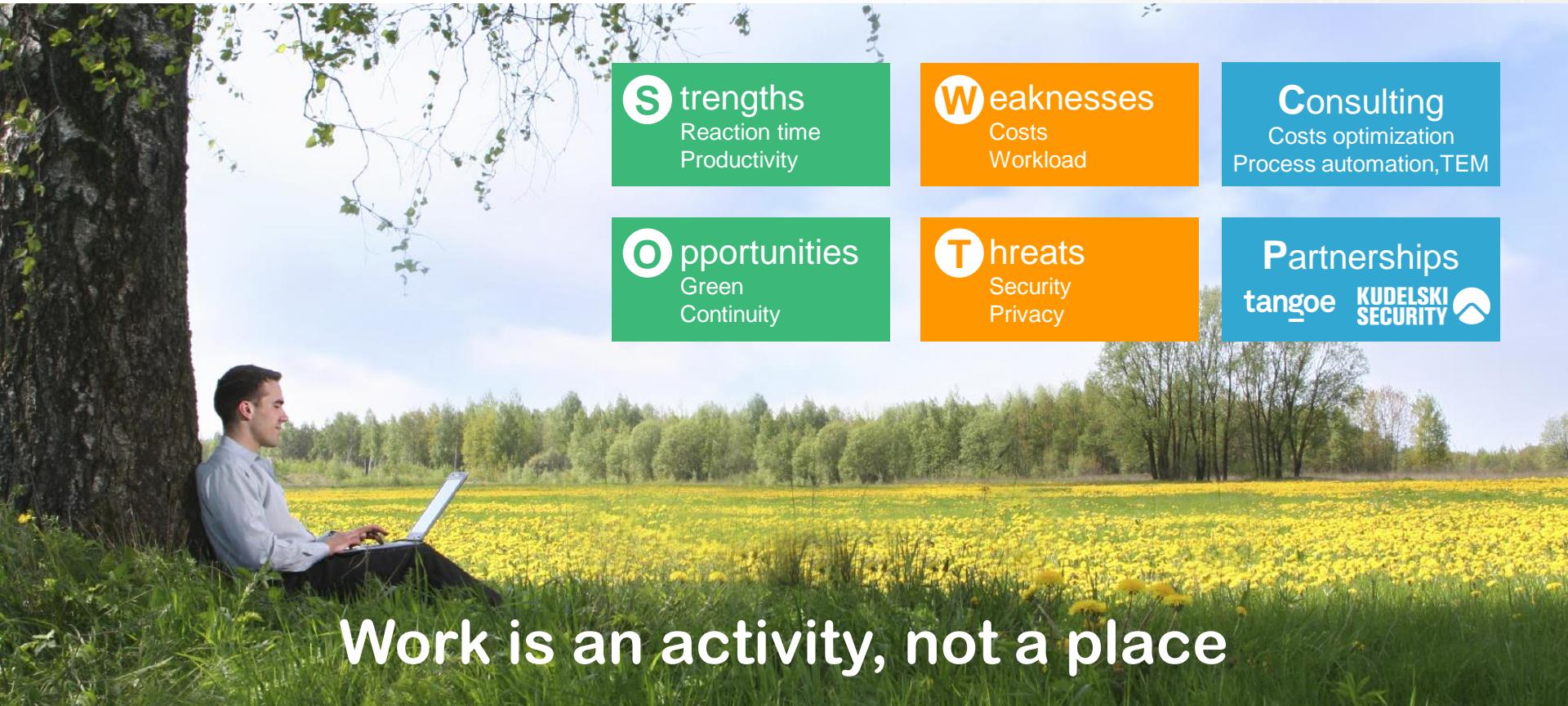
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Presented by



# Tmanco SA – TOOLS TO UNLOCK ENTERPRISE MOBILITY



**S**trengths

Reaction time  
Productivity

**W**eaknesses

Costs  
Workload

**C**onsulting

Costs optimization  
Process automation, TEM

**O**pportunities

Green  
Continuity

**T**hreats

Security  
Privacy

**P**artnerships

tangoe **KUDELSKI SECURITY**

Work is an activity, not a place

# Kudelski Group – 3'800 employees

## Content Security Solutions



More than 500 million users enjoy Kudelski Group solutions every day

**NAGRA**  
KUDELSKI GROUP

World Leader in Integrated Content Security Solutions

## Public Access Security



**SKIDATA**  
KUDELSKI GROUP

World Leader in Public Access Solutions

## Cybersecurity Solutions



Switzerland's Largest Cybersecurity Company



- Founded in Switzerland in **1951**
- Shares majority by **Kudelski family**
- CEO & Chairman** André Kudelski, nominated **Head of 'InnoSuisse'**
- 1,067M** CHF in Revenue, (SIX:KUD.S)
- Operating in **33 countries**
- 200M** CHF R&D budget
- 5,300** patents, **300** new annually

# Kudelski Group offices around the world

Headquartered in Switzerland and operating on five continents



Access calls and SMS via the antiquated **SS7**

State agencies access communications via operators, via **baseband** or **O.S.** backdoors

## Threats on mobile communications



- Legitimate Communications
- Attacker Activity
- Spying / Interception

Over a billion insecure connection points

# NOT JUST THEORY: TOOLS ARE HERE, EASIER, CHEAPER ...

## public intelligence

### CORPORATE

#### Gamma Group FinFisher Governmental IT Intrusion and Surveillance Presentations

September 3, 2013

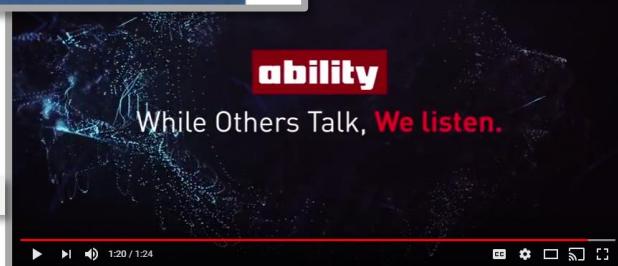
The following presentations from the Gamma Group describe the company's FinFisher and 3G-GSM tactical interception and target location surveillance products. The presentations were [anonymously posted online](#) and are reportedly from 2011 discussions between Gamma and the German State Criminal Police Offices (*Landeskriminalämter*).

#### 3G-GSM Tactical Interception & Target Location

**GAMMA GROUP**  
**MODEL 4062** HIGHLY PORTABLE SOLUTIONS  
BODY-WORN IMSI CATCHER  
GENERAL OVERVIEW  
The new generation of GSM & 3G IMSI & IMEI acquisition technology.  
Utilizing our exclusive PAF (Patent Applied For) technology the system

51 [Download \(40.9 MB\)](#)

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SMS GANG

SEND SMS TRACK SMS PINCODE FREE

Spoof SMS Service. Send anonymous SMS from your phone.

Mobile number of the recipient in international format  
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SMS To:  +  
From:   
Pincode:   
Text Message:   
Non-English characters? Send SMS in Unicode (70 symbols)   
160 symbols left

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The World's Most Powerful Monitoring Software for Computers, Mobile Phones and Tablets

Know Everything That Happens on A Computer or Smartphone, No Matter Where You Are

Monitor all cell phone digital and audio communications  
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Works with Android, iPhone, iPad, PC and Mac  
More monitoring features than any other product

Alibaba.com Global trade starts here.

Sourcing Solutions Services & Membership

Home > All Industries > Telecommunications > Communication Equipment > Other Telecommunications

IMSI catcher

FOB Reference Price: [Get Price](#) US \$1,800 / Unit | 1

Contact Supplier

Leave Messages

Payment: This supplier accepts

[tman.co/mi-alimsi](http://tman.co/mi-alimsi)

# AND MORE PEOPLE ARE TEMPTED TO USE THEM

[tman.co/mi-nyt1706](http://tman.co/mi-nyt1706)

The New York Times

TIMES INSIDER

'Our Phones Are Being Monitored': How a Hacking Story Unfurled

Leer en español

By AZAM AHMED and NICOLE PERLROTH JUNE 19, 2017



Relatives at a protest in Mexico City last month carried posters of some of the 43 students from a teachers college who disappeared in September 2014. A lawyer representing families of the students was targeted by highly sophisticated spyware that could take over a cellphone. Henry Romero/Reuters

[tman.co/mi-wir1604](http://tman.co/mi-wir1604)



POPULAR SCIENCE



"Interceptor use in the U.S. is much higher than people had anticipated," Goldsmith says. "One of our customers took a road trip from Florida to North Carolina and he found 8 different interceptors on that trip. We even found one [in the vicinity of] South Point Casino in Las Vegas."

**Who is running these interceptors and what are they doing with the calls?**

[tman.co/mi-psc1408](http://tman.co/mi-psc1408)

WIRED

The Critical Hole at the Heart of Our Cell Phone Networks

THEN ONE/WIRED

IN FEBRUARY 2014, the US ambassador to Ukraine suffered an embarrassing leak. A secret conversation between him and US Assistant Secretary of State Victoria Nuland got posted to YouTube, in which Nuland spoke disparagingly about the European Union.

The conversation occurred over unencrypted phones, and US officials told me it was likely intercepted in Ukraine. I believe it occurred on a mobile network known as a

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NSA

NSA tapped German Chancellery for decades, WikiLeaks claims

New documents released suggest communications between top officials including Angela Merkel were intercepted by the US spy agency



[tman.co/mi-tgd1508](http://tman.co/mi-tgd1508)

# BUT MOST BUSINESS ARE TOTALLY UNPREPARED ...



Security professionals identified the risk of mobile devices, but focus and resources assignment seem to be waiting for actual catastrophes to validate the need to properly prepare their defenses

**20% experienced mobile breach**

**24% don't know or can't tell**

**94% expect frequency to grow**

**64% doubt can prevent breach**

*Research report from Dimensional Research*

sponsored by Check Point

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## FOR THESE MOBILE ATTACKS

### - Communications

- Listen to all Voice calls made or received
- Read all SMS made or received
- Spoof identity to falsely send SMS or Voice calls
- Divert Calls/SMS so they are not received
- Edit all SMS before they are received

### - Device

- Access all infos in device (geo-location, mail, contacts, phone-log, pictures, etc.)
- Intercept microphone signal and listen to phone-call despite using encrypted app

# Mobile security, an impossible challenge?

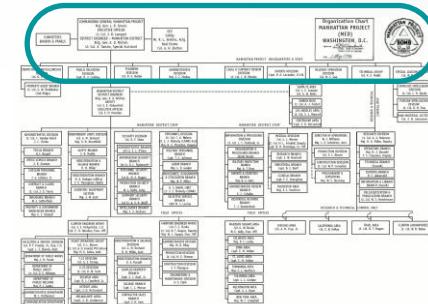
## End user perspective

- I don't want a secure phone with poor user experience
- I want the latest available smartphone
- I want to keep my phone



## IT security perspective

- No compromise on security
- Limited budget, high-end security only for a happy few?



# Secure communications – Our missions



**Secure voice & IM  
state-agency proof**



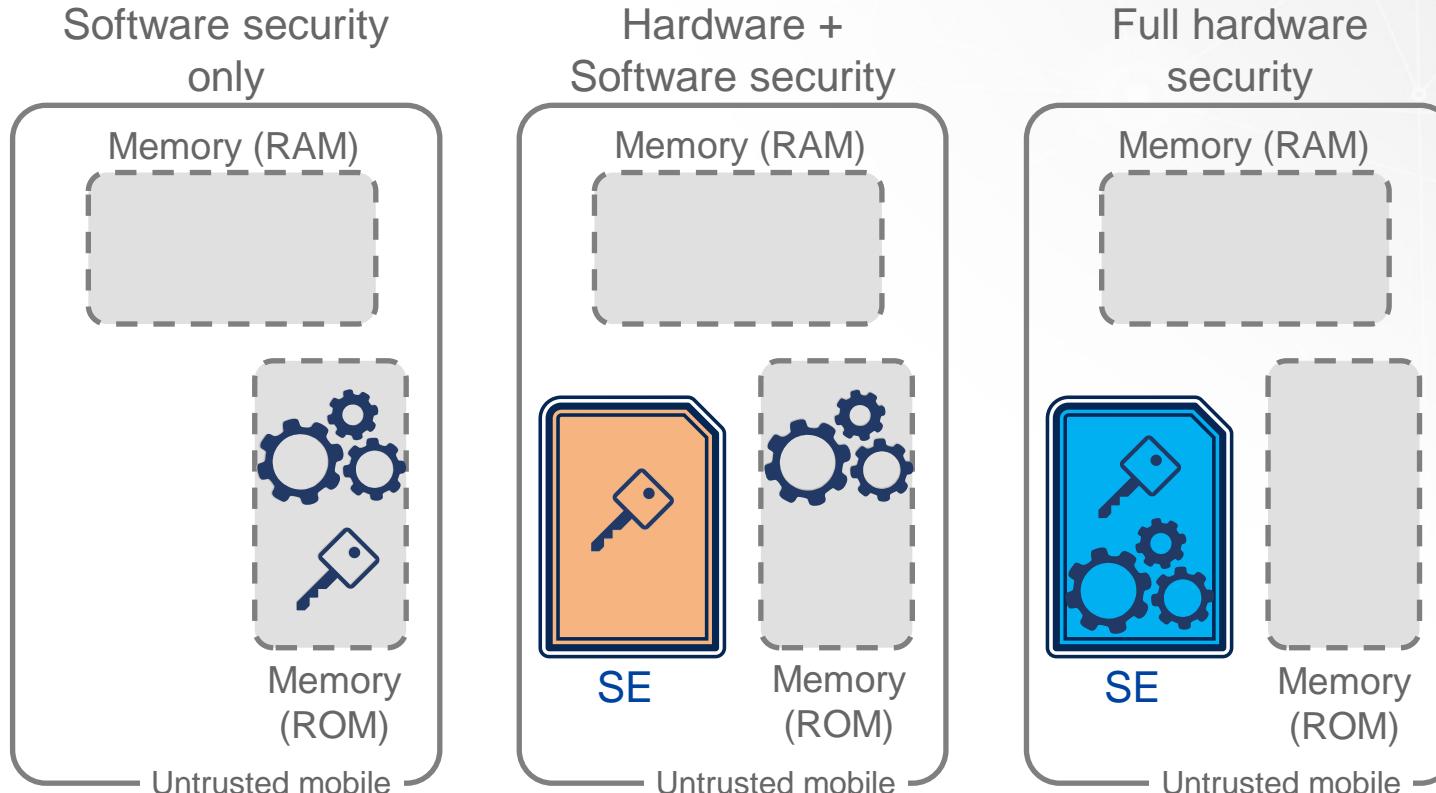
**Secure collaboration  
for every employee**



**Easy to use on your  
usual device**



# Kinds of solutions available on the market



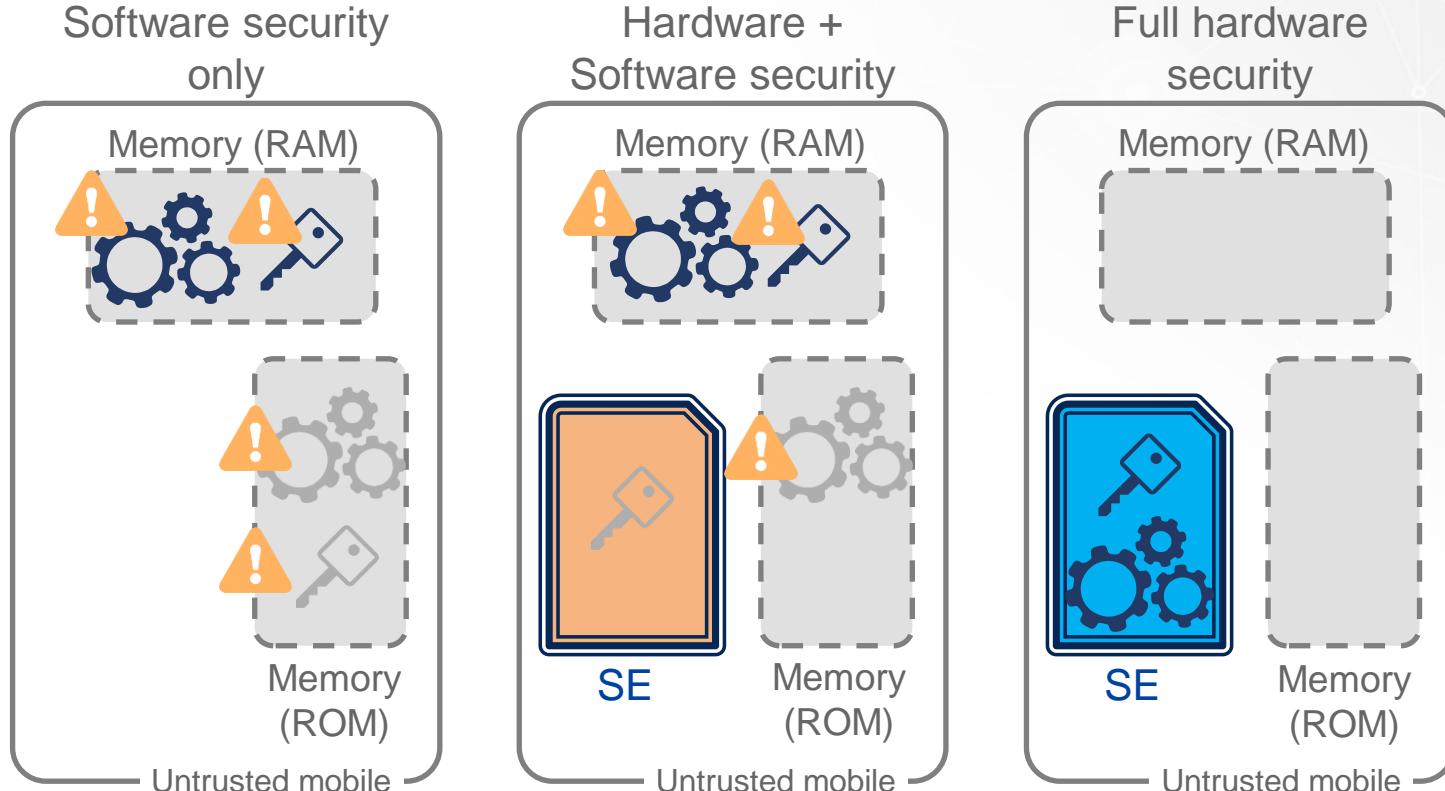
Algorithm



Secret Key

Stand-by  
situation

# WHITE NOISE – The value of hardware encryption



Algorithm



Secret Key

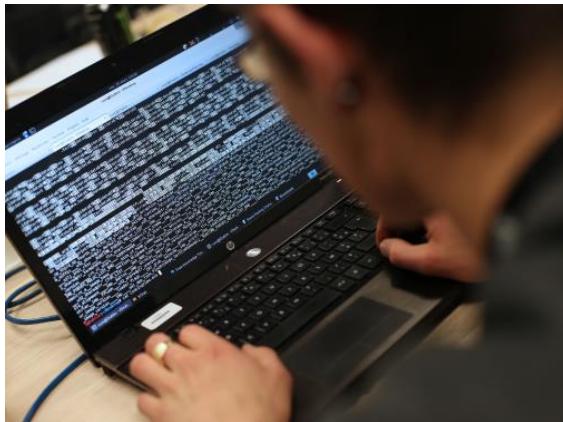
Operating  
situation



WHITE NOISE  
Secure Communications

# The value of hardware encryption - Initial investment for hacking

## Software security

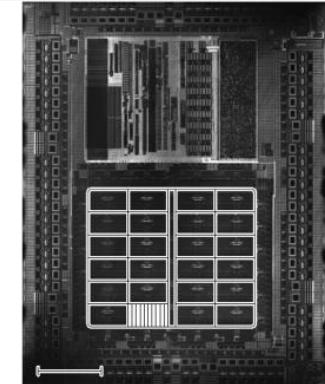
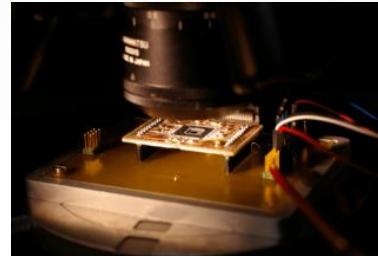


\$1K equipment



$\times 10'000$

## Hardware security



\$10M equipment

# WHITE NOISE – In a nutshell

## Secure Unified Communication for:

- Voice
- Instant messaging

## Ensures:

- Content Protection
- Content Integrity
- User Authentication

SWISS  SOLUTION

Support for off-the-shelf devices

## Mobile and computers



Full end-to-end **hardware encryption**

# Secure unified communications – Use cases

## iPhone security



## Universal mobile security



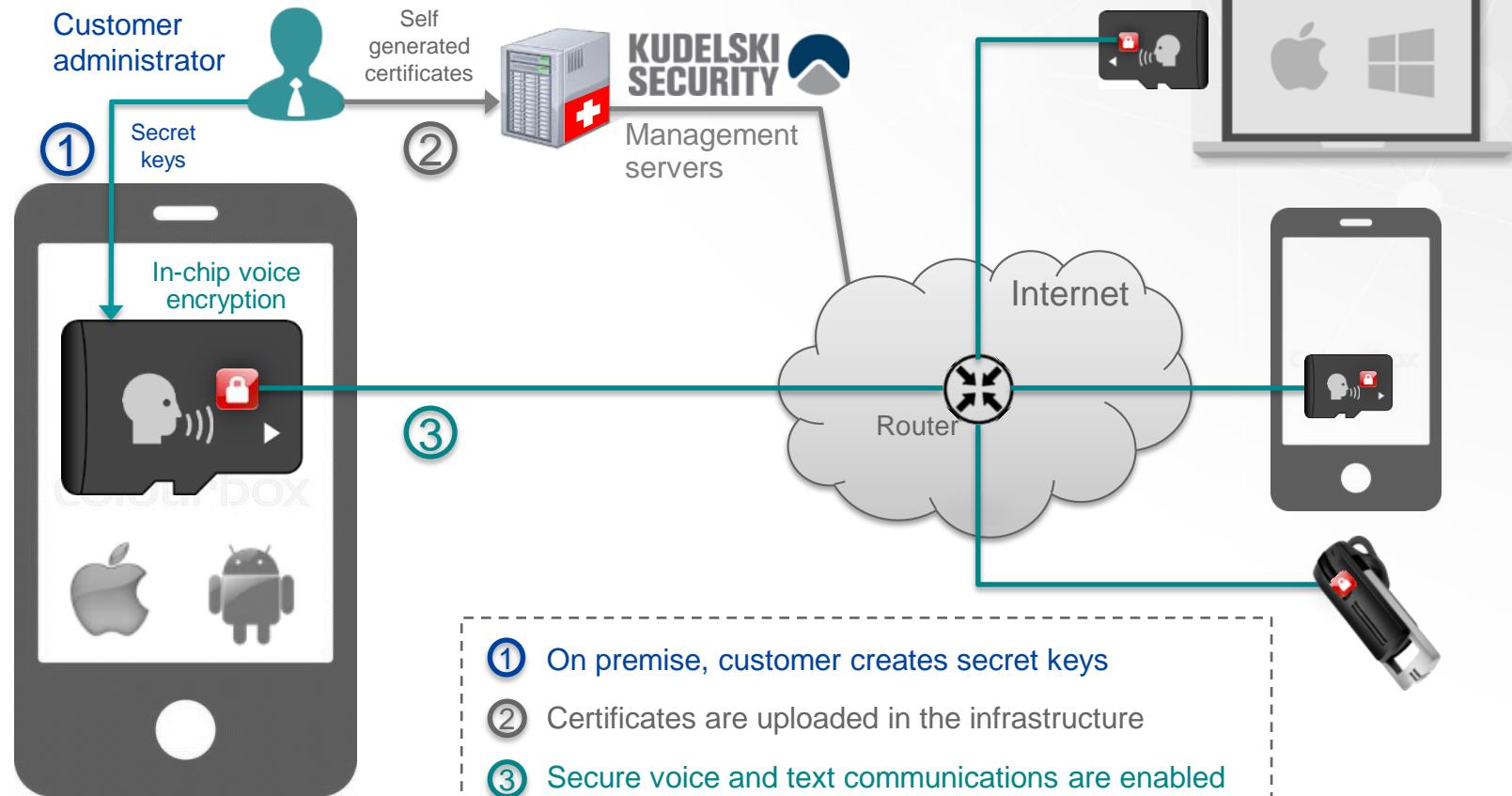
## Security at the office



Integrated security

## Security on the go

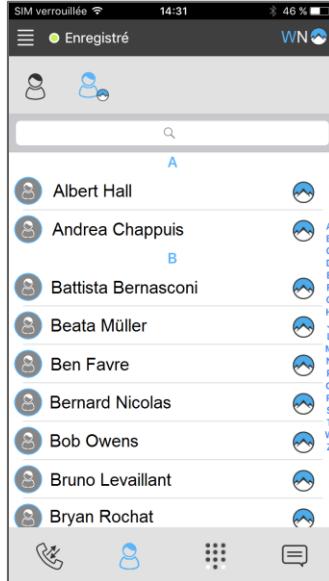
# How it works



# Mobile App. User Interface



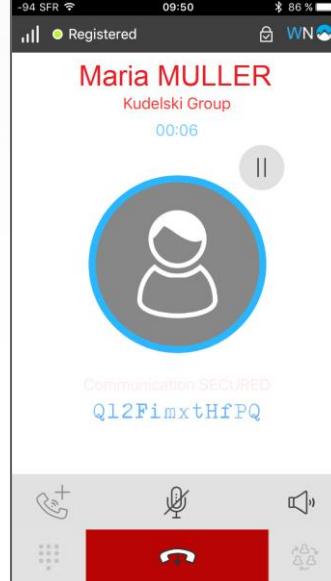
PIN code screen  
Keypad is **scrambled** for security



WHITE NOISE  
dedicated contact list



WHITE NOISE secure calls  
management



# Key differentiators



- Multi-platform
- Security for all
- Swiss technology
- Full control of security chain
- 25 years crypto expertise
- EAL5+ CC certified platform
- Best in class security lab

*Our approach*

- In-chip encryption
- In-house + standard crypto.
- Encryption with 768 bits entropy
- Secure OTA management
- Agile group management
- Remote kill
- Sovereign keys from client

*Our cryptography*

- Tier 4 redundant datacenters

- Security level up to Classified

*Our system*

# WHITE NOISE: FINALIST FOR SWISS ICT AWARD 2017



**SWISS ICT AWARD**  
14. NOVEMBER 2017  
KULTUR-UND KONGRESSZENTRUM LUZERN

[www.swissict-award.ch](http://www.swissict-award.ch)

**IT Magazine**

**Kudelski Group mit White Noise**

**Darum sollten Sie uns wählen:**

In einer Zeit, in der Hacking-Angriffe noch nie gesehene Ausmassen erreichen, brauchen Regierungen und Unternehmen neue Wege, um sicherzustellen, dass ihre Kommunikation nicht abgefangen wird. White Noise ist eine einfach zu bedienende, sichere Kommunikationslösung, die einen bahnbrechenden Sicherheitsgrad bietet.

*Jean-Michel Puiatti, Senior Vice President, Kudelski Group – IOT Security*

Das Unternehmen aus der Kudelski-Gruppe hat mit «White Noise» eine sichere Kommunikationslösung auf den Markt gebracht, welche massgeschneiderte Hardwareverschlüsselung für Anrufe und Textnachrichten verspricht. Die Lösung funktioniert dabei plattformübergreifend und soll Kunden die vollständige Kontrolle über die Sicherheit ihrer Geräte auf iPhone, Android oder PC garantieren. Entwickelt und gehostet in der Schweiz, sollen damit alle Sicherheitsherausforderungen gemeistert werden.

Artanim  
Eyeware Tech  
Imito  
Kudelski Group  
Nomos System

Advertima  
Bexio  
Crowdhouse  
Recapp  
Swisscognitive

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**SWISS ICT PUBLIC AWARD: START OF THE VOTING**

Who wins the Swiss ICT Public Award 2017? Now it's your turn. Give your vote at the Swiss IT Magazine readers voting.

[tman.co/ictaward-vote](http://tman.co/ictaward-vote)

## Thank You

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